

**SEMESTER EXAMINATION-2022**  
**CLASS – M.Sc. SUBJECT: CHEMISTRY**  
**PAPER CODE: MCH-C303**  
**PAPER: ANALYSIS OF OILS, FATS, SOAPS, DETERGENTS,**  
**ESSENTIAL OILS, PAINTS AND VARNISHES**

**Time: 3 Hours**

**Max. Marks: 70**

**Min. Pass: 40%**

**Note:** Question paper is divided into two sections A and B. Attempt both the sections as per given instructions.

**SECTION A (SHORT ANSWER TYPE QUESTIONS)**

**Note:** Answer any *five* questions in about 150 words each. Each question carries six marks. 5×6=30 Marks

Question 1: How can you differentiate between soaps and detergents? Explain with examples.

Question 2: Write a note on fatty acids and their classification.

Question 3: What do you mean by specific gravity? How it is determined for a sample of oil/fat?

Question 4: Explain the method for determination of insoluble matter of soap in water.

Question 5: State and explain the gem-dialkyl rule.

Question 6: What do you understand by epoxy paints? Give their uses also.

Question 7: What is meant by refractive index? Give the procedure for determination of refractive index of oil by Abbe's refractometer.

Question 8: Explain the theory and method for determination of free alkali and free acid present in a sample of soap.

Question 9: Discuss the general properties of terpenoids.

Question 10: What is meant by the iodine value of oil? Give its significance also.

**SECTION B (LONG ANSWER TYPE QUESTIONS)**

**Note:** Answer any *four* questions in detail. Each question carries ten marks.

4×10=40

Question 11: What are oils and fats? Give an account of types and nomenclature of fatty acids.

Question 12: What do you understand by soap and detergent? Give examples. Explain the cleansing action of soap.

Question 13: Explain various paint-film formation methods in detail.

Question 14: Give the theory and procedure of determination of saponification value of oil/fat. Give its significance also.

Question 15: Discuss the dichromate method for determination of glycerol content in soap in detail.

Question 16: Write an essay on essential ingredients of paints.

Question 17: What are essential oils and terpenoids? Give the classification and general properties of terpenoids. How are essential oils isolated from plant material?

Question 18: Discuss the constitution of linalool. Give its synthesis and uses.